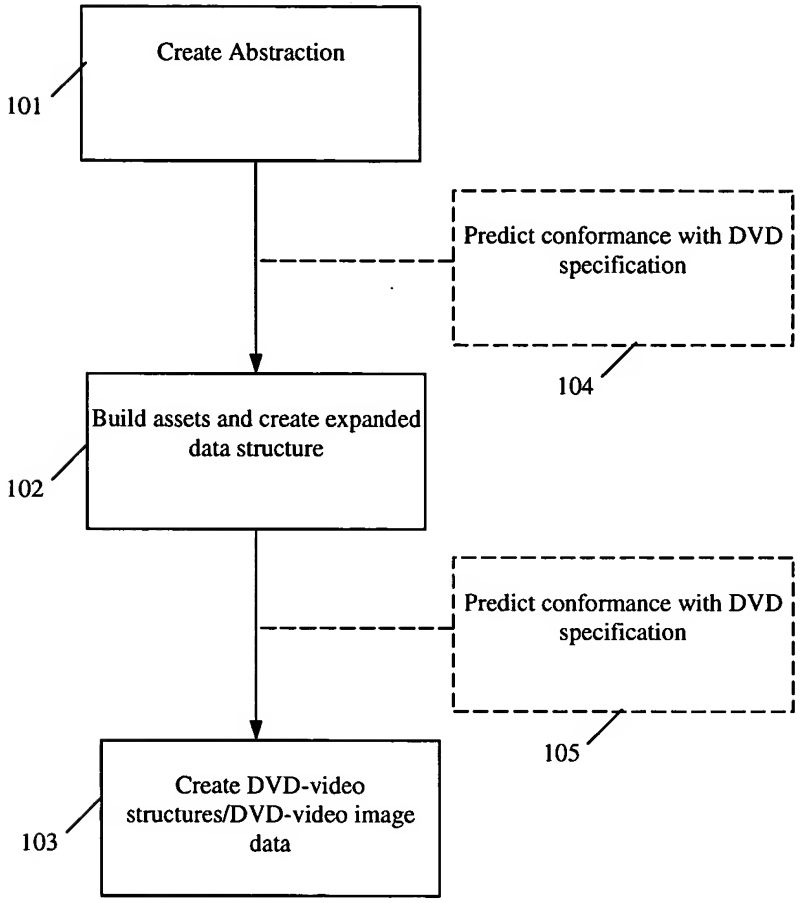

Create Abstraction
101
Predict conformance with DVD specification
104
Build assets and create expanded data structure
102
Predict conformance with DVD specification
105
Create DVD-video structures/DVD-video image data
103

Fig. 1

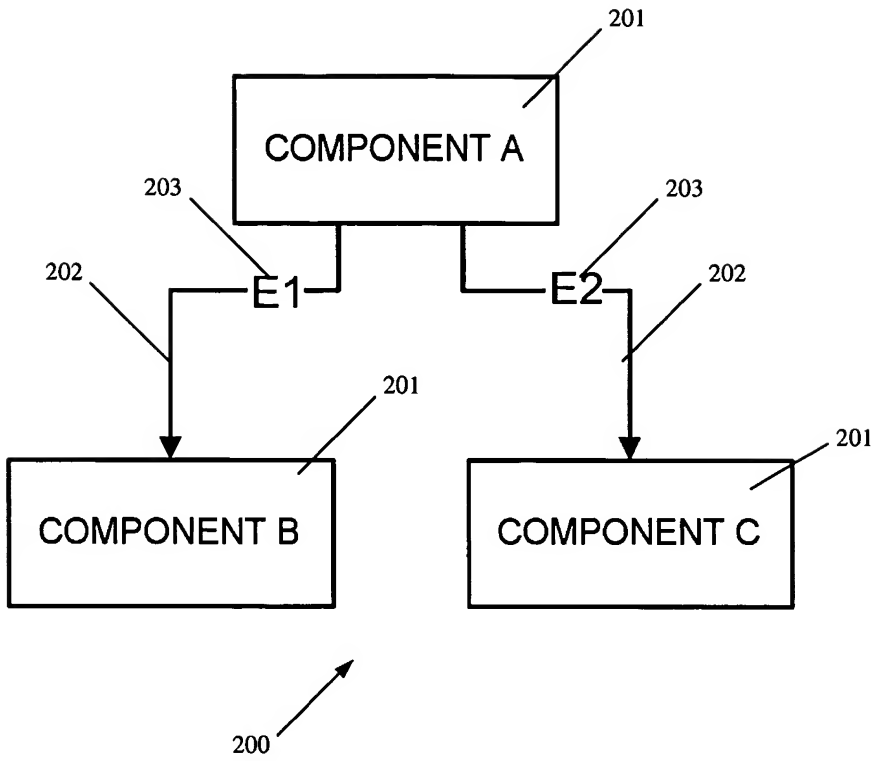

201
COMPONENT A
203
203
202
E1
E2
202
201
201
COMPONENT B
COMPONENT C
200

Fig. 2

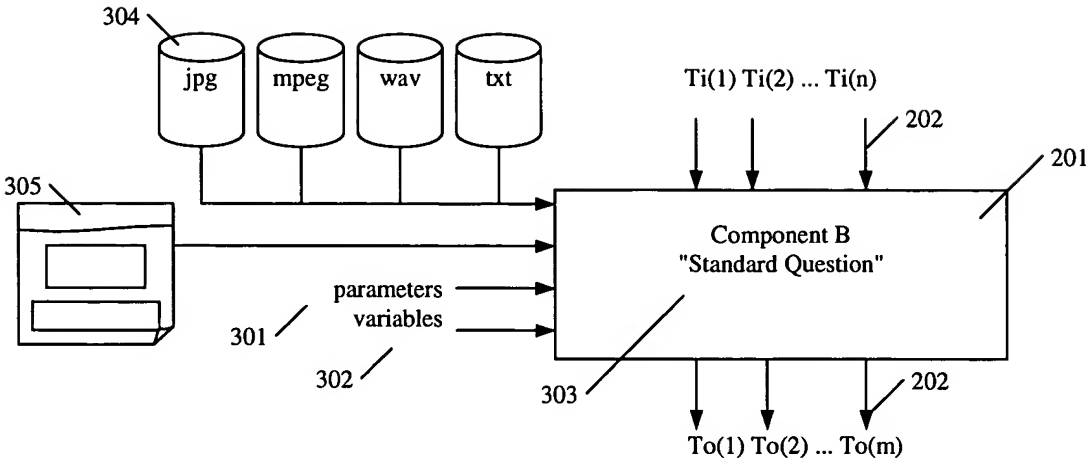

304
jpg
mpeg
wav
txt
Ti(1) Ti(2) ... Ti(n)
202
201
305
Component B
"Standard Question"
parameters
variables
301
302
303
202
To(1) To(2) ... To(m)

Fig. 3

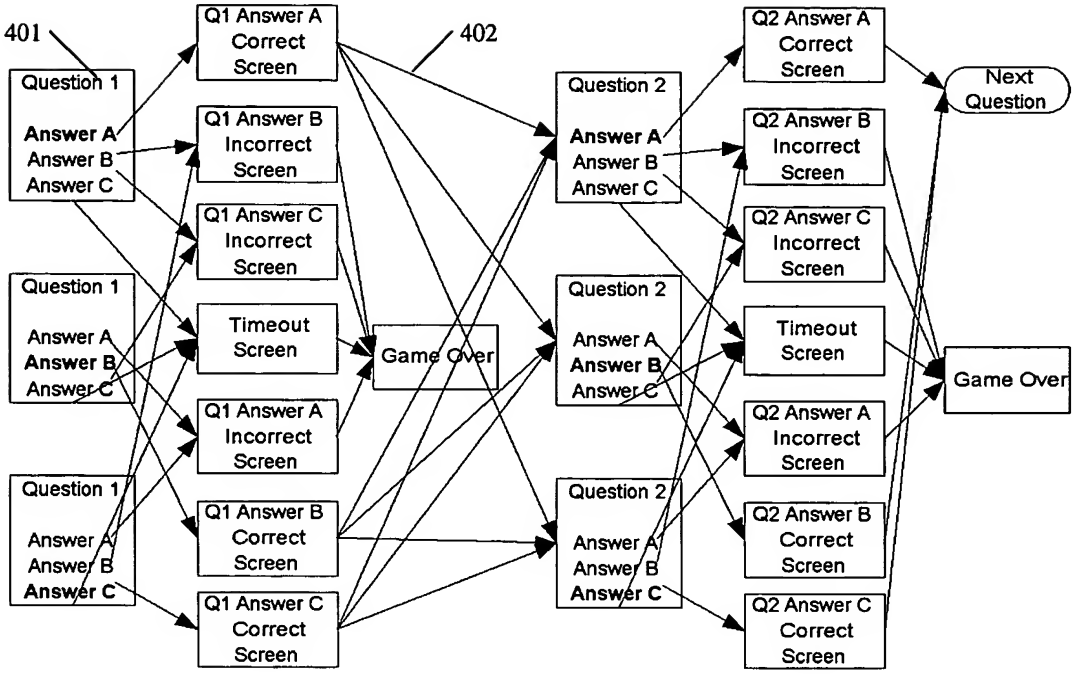

401
402
Question 1
Answer A
Answer B
Answer C
Question 1
Answer A
Answer B
Answer C
Question 1
Answer A
Answer B
Answer C
Q1 Answer A Correct Screen
Q1 Answer B Incorrect Screen
Q1 Answer C Incorrect Screen
Timeout Screen
Q1 Answer A Incorrect Screen
Q1 Answer B Correct Screen
Q1 Answer C Correct Screen
Game Over
Question 2
Answer A
Answer B
Answer C
Question 2
Answer A
Answer B
Answer C
Question 2
Answer A
Answer B
Answer C
Q2 Answer A Correct Screen
Q2 Answer B Incorrect Screen
Q2 Answer C Incorrect Screen
Timeout Screen
Q2 Answer A Incorrect Screen
Q2 Answer B Correct Screen
Q2 Answer C Correct Screen
Next Question
Game Over

Fig. 4a

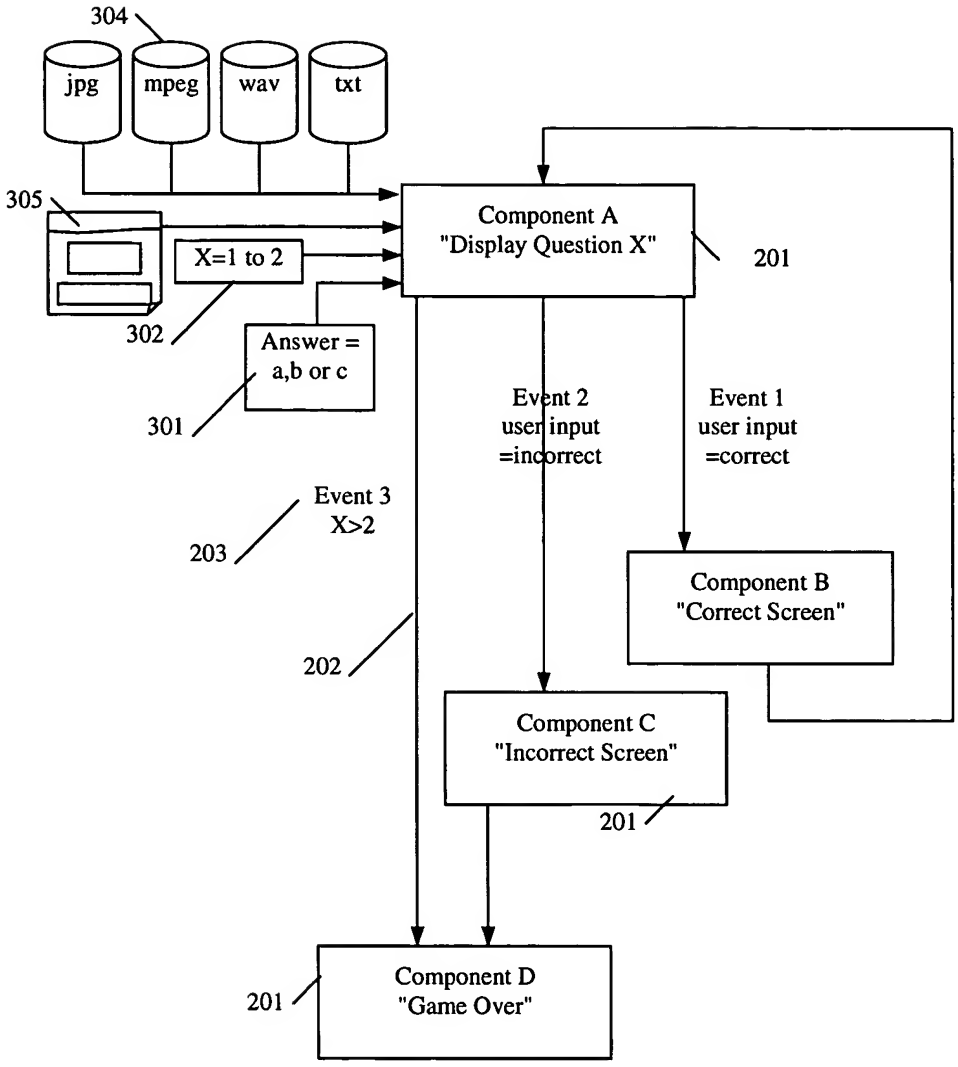

304
jpg
mpeg
wav
txt
305
X=1 to 2
302
Answer =
a,b or c
301
Component A
"Display Question X"
201
Event 2
user input
=incorrect
Event 1
user input
=correct
Event 3
X>2
203
202
Component B
"Correct Screen"
Component C
"Incorrect Screen"
201
201
Component D
"Game Over"

Fig. 4b

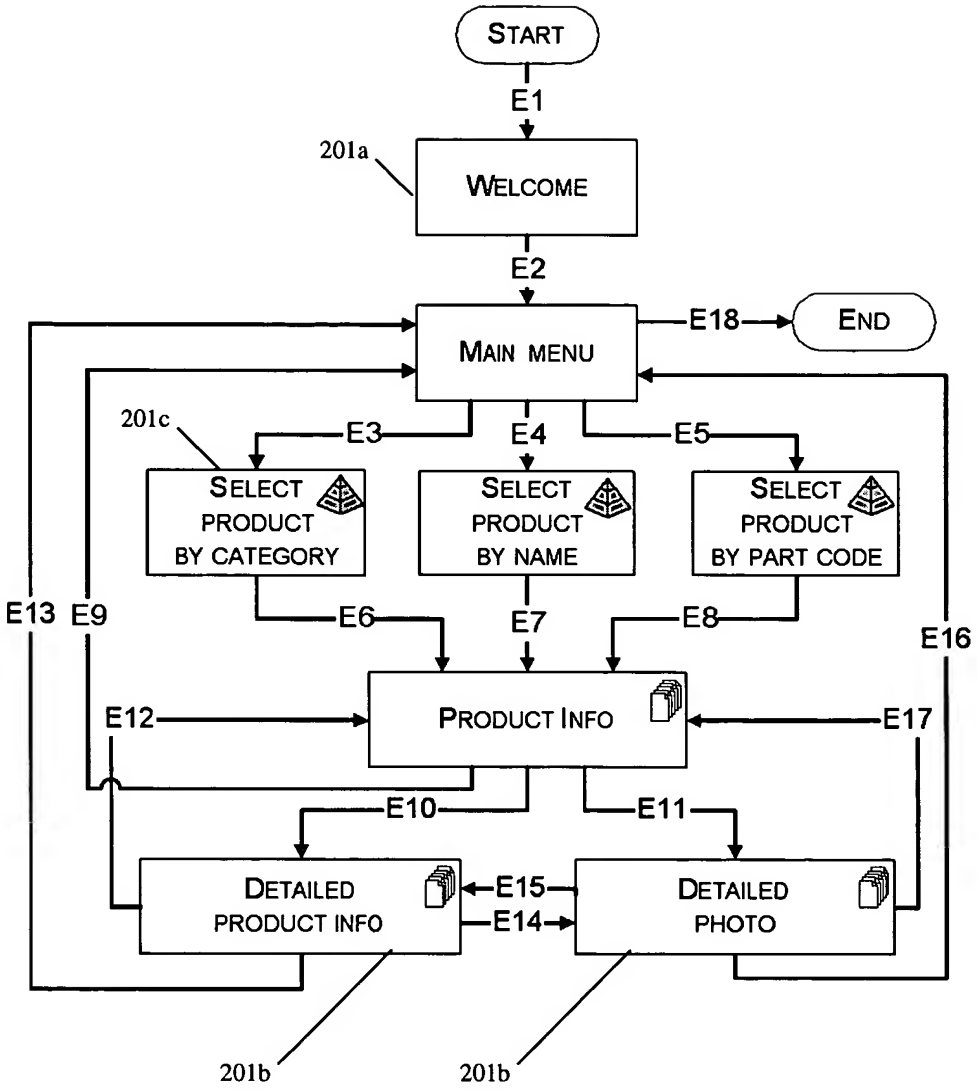

START
E1
201a
WELCOME
E2
MAIN MENU
E18
END
201c
E3
E4
E5
SELECT PRODUCT BY CATEGORY
SELECT PRODUCT BY NAME
SELECT PRODUCT BY PART CODE
E13
E9
E6
E7
E8
E16
E12
PRODUCT INFO
E17
E10
E11
DETAILED PRODUCT INFO
E15
E14
DETAILED PHOTO
201b
201b

Fig. 5

Event	From	To	Conditions	Description
E1	Start	Welcome	Insert DVD	Start
E2	Welcome	Main Menu	Timed event	Display Welcome for 15 seconds
E3	Main Menu	Select Product by Category	Category selected	User chooses a search category
E4	Main Menu	Select Product by Name	Name selected	User chooses a search category
E5	Main Menu	Select Product by Part Code	Part Code selected	User chooses a search category
E6	Select Product by Category	Product Info	Product selected	The user selects a product from a list organised by category
E7	Select Product by Name	Product Info	Product selected	The user selects a product from a list organised by name
E8	Select Product by part code	Product Info	Product selected	The user selects a product from a list organised by part code
E9	Product info	Main Menu	Return to Menu selected	User wants to select a new product or exit
E10	Product Info	Detailed Product Info	Details selected	User wants to see more info
E11	Product Info	Detailed photo	Photo selected	User wants to see big photo
E12	Detailed product info	Product Info	Product info selected	User wants to see summary info
E13	Detailed product info	Main Menu	Return to Menu selected	User wants to select a new product or exit
E14	Detailed product info	Detailed photo	Photo selected	User wants to see big photo
E15	Detailed photo	Detailed product Info	Details selected	User wants to see more info
E16	Detailed Photo	Main Menu	Return to Menu selected	User wants to select a new product or exit
E17	Detailed Photo	Product Info	Product info selected	User wants to see summary info
E18	Main Menu	End	Exit selected	End

Fig. 6

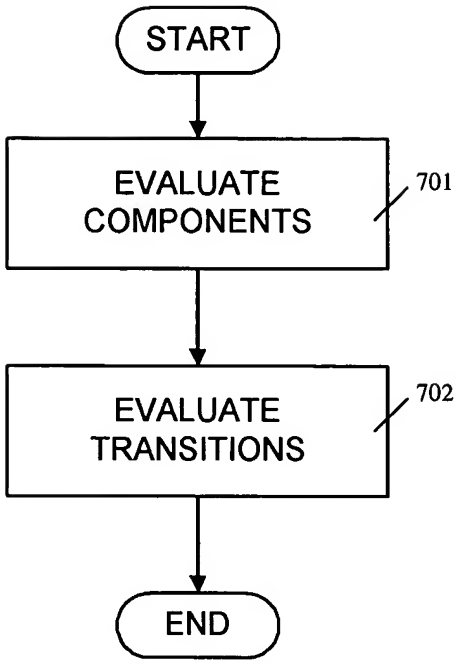

START
EVALUATE COMPONENTS
701
EVALUATE TRANSITIONS
702
END

Fig. 7

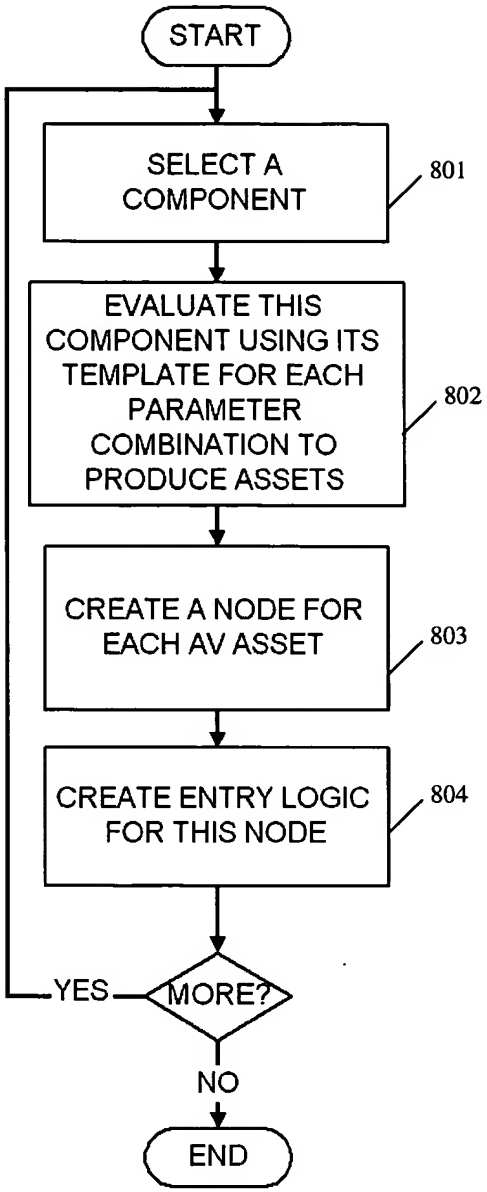

START
SELECT A COMPONENT
801
EVALUATE THIS COMPONENT USING ITS TEMPLATE FOR EACH PARAMETER COMBINATION TO PRODUCE ASSETS
802
CREATE A NODE FOR EACH AV ASSET
803
CREATE ENTRY LOGIC FOR THIS NODE
804
MORE?
YES
NO
END

Fig. 8

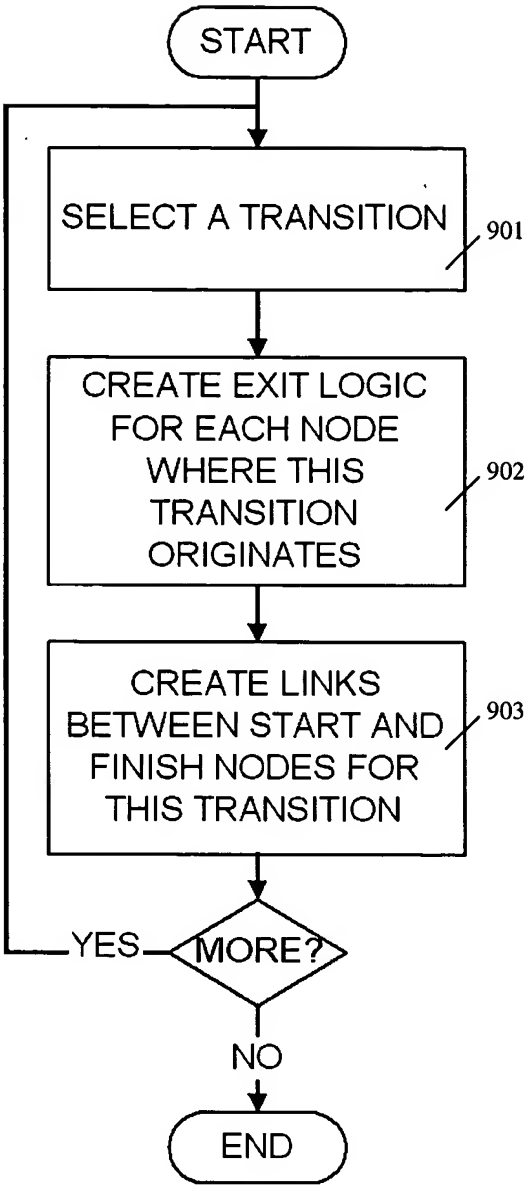

START
SELECT A TRANSITION
901
CREATE EXIT LOGIC FOR EACH NODE WHERE THIS TRANSITION ORIGINATES
902
CREATE LINKS BETWEEN START AND FINISH NODES FOR THIS TRANSITION
903
YES
MORE?
NO
END

Fig. 9

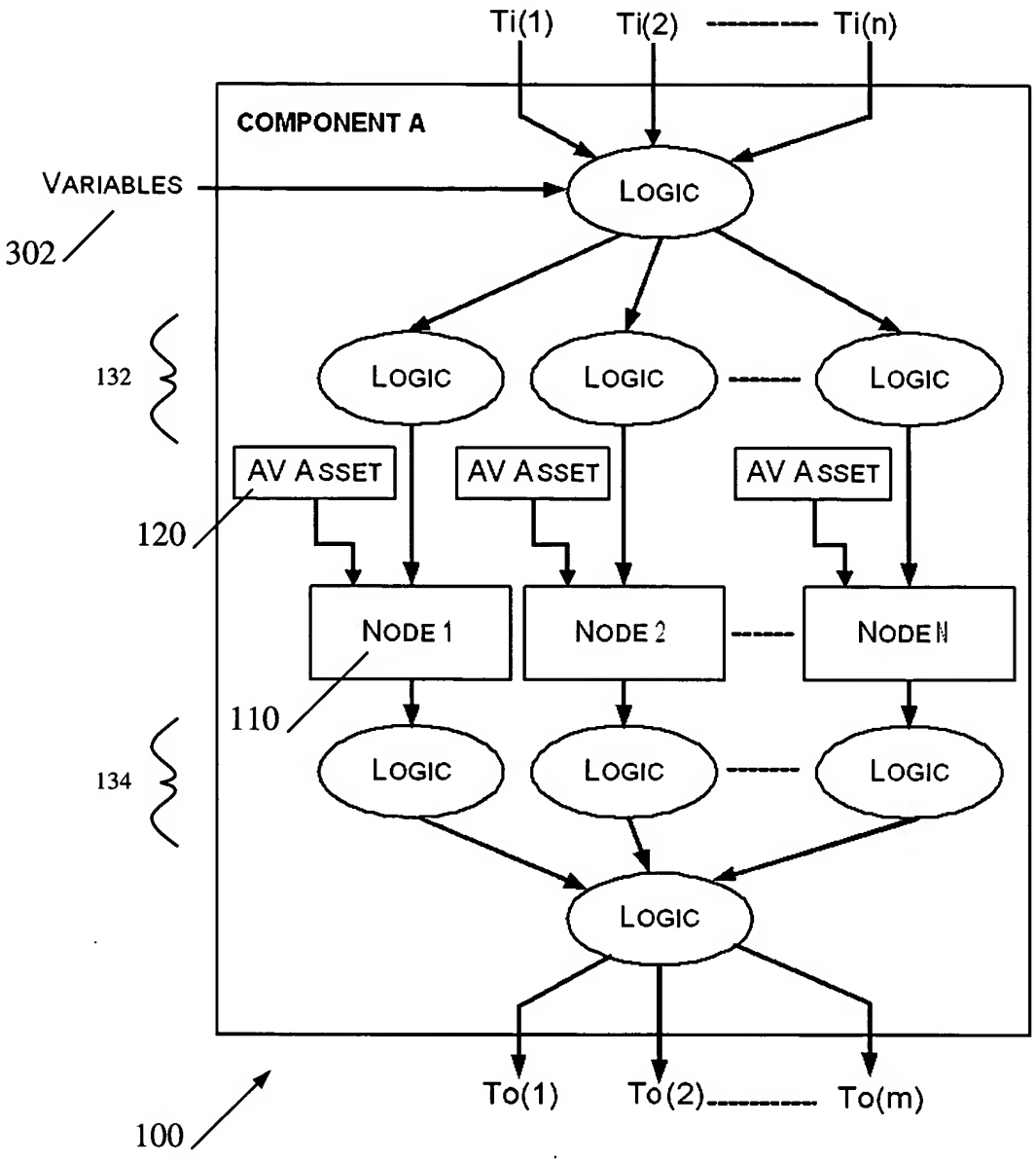

Ti(1)
Ti(2)
Ti(n)
COMPONENT A
VARIABLES
302
LOGIC
132
LOGIC
LOGIC
LOGIC
AV ASSET
AV ASSET
AV ASSET
120
NODE 1
NODE 2
NODE N
110
134
LOGIC
LOGIC
LOGIC
LOGIC
To(1)
To(2)
To(m)
100

Fig. 10

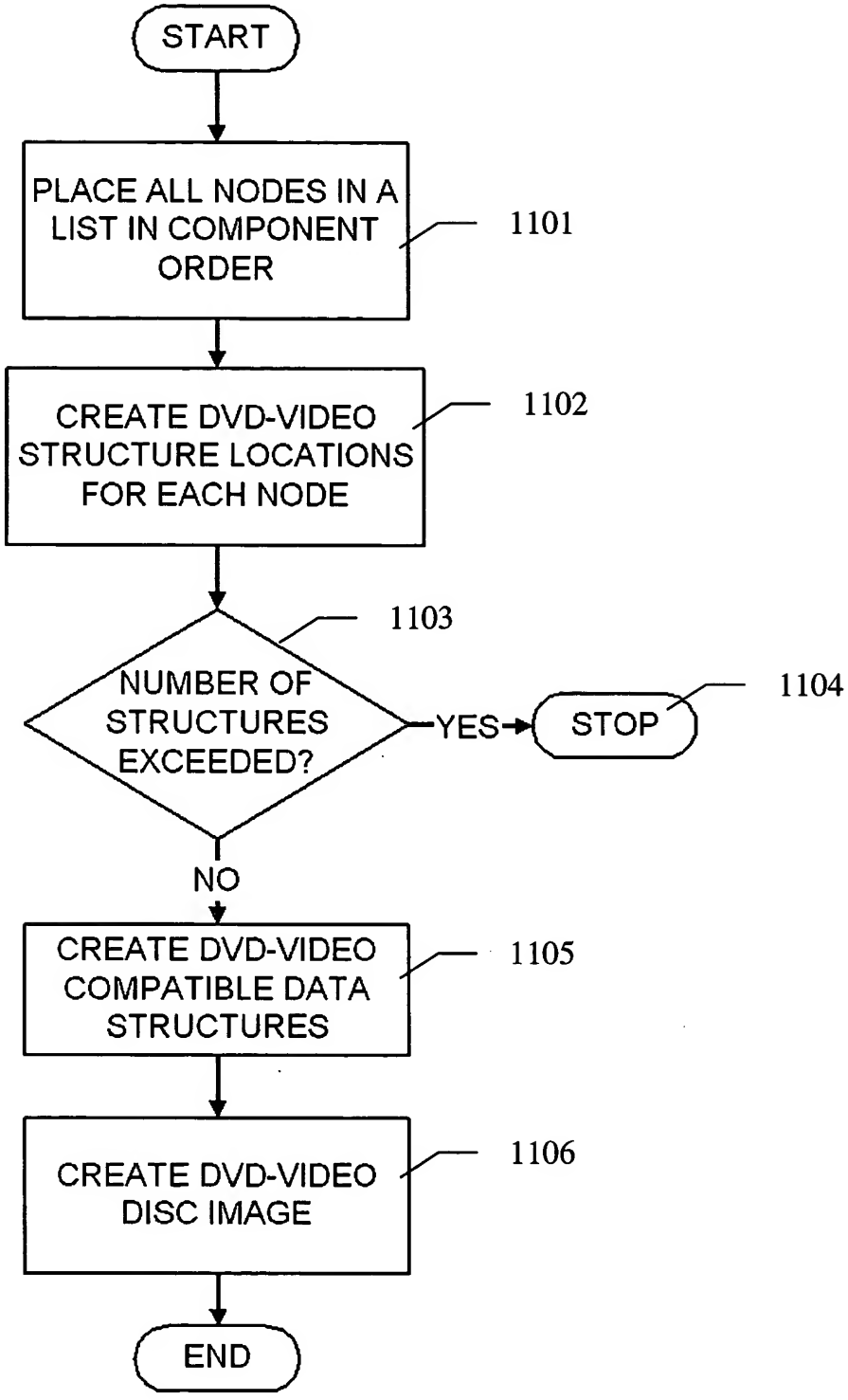

START
PLACE ALL NODES IN A LIST IN COMPONENT ORDER
1101
CREATE DVD-VIDEO STRUCTURE LOCATIONS FOR EACH NODE
1102
1103
NUMBER OF STRUCTURES EXCEEDED?
YES
STOP
1104
NO
CREATE DVD-VIDEO COMPATIBLE DATA STRUCTURES
1105
CREATE DVD-VIDEO DISC IMAGE
1106
END

Fig. 11

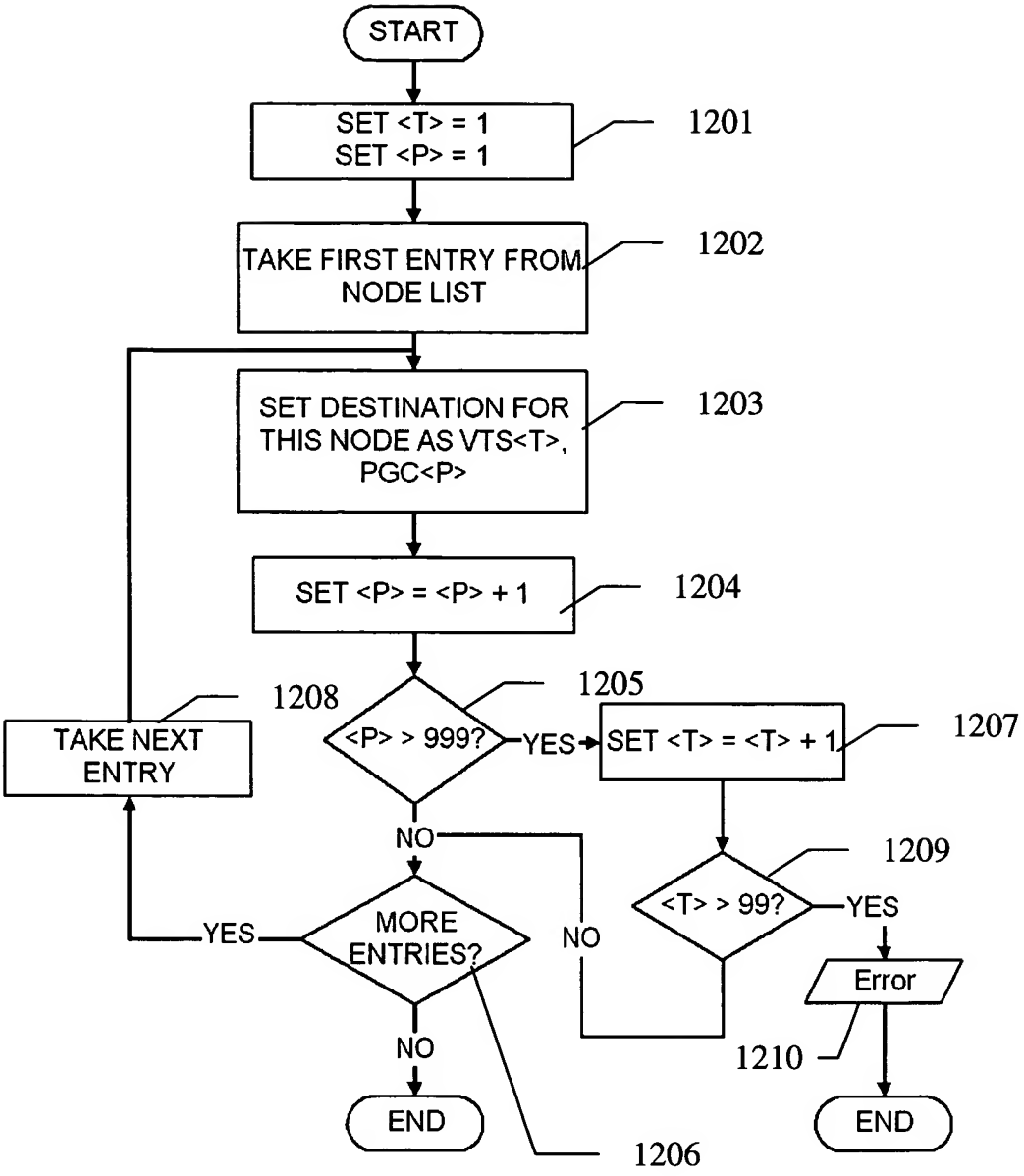

START
SET <T> = 1
SET <P> = 1
1201
TAKE FIRST ENTRY FROM NODE LIST
1202
SET DESTINATION FOR THIS NODE AS VTS<T>, PGC<P>
1203
SET <P> = <P> + 1
1204
1205
<P> > 999?
YES
SET <T> = <T> + 1
1207
1208
TAKE NEXT ENTRY
NO
1209
<T> > 99?
YES
Error
1210
MORE ENTRIES?
YES
NO
NO
END
END
1206

Fig. 12

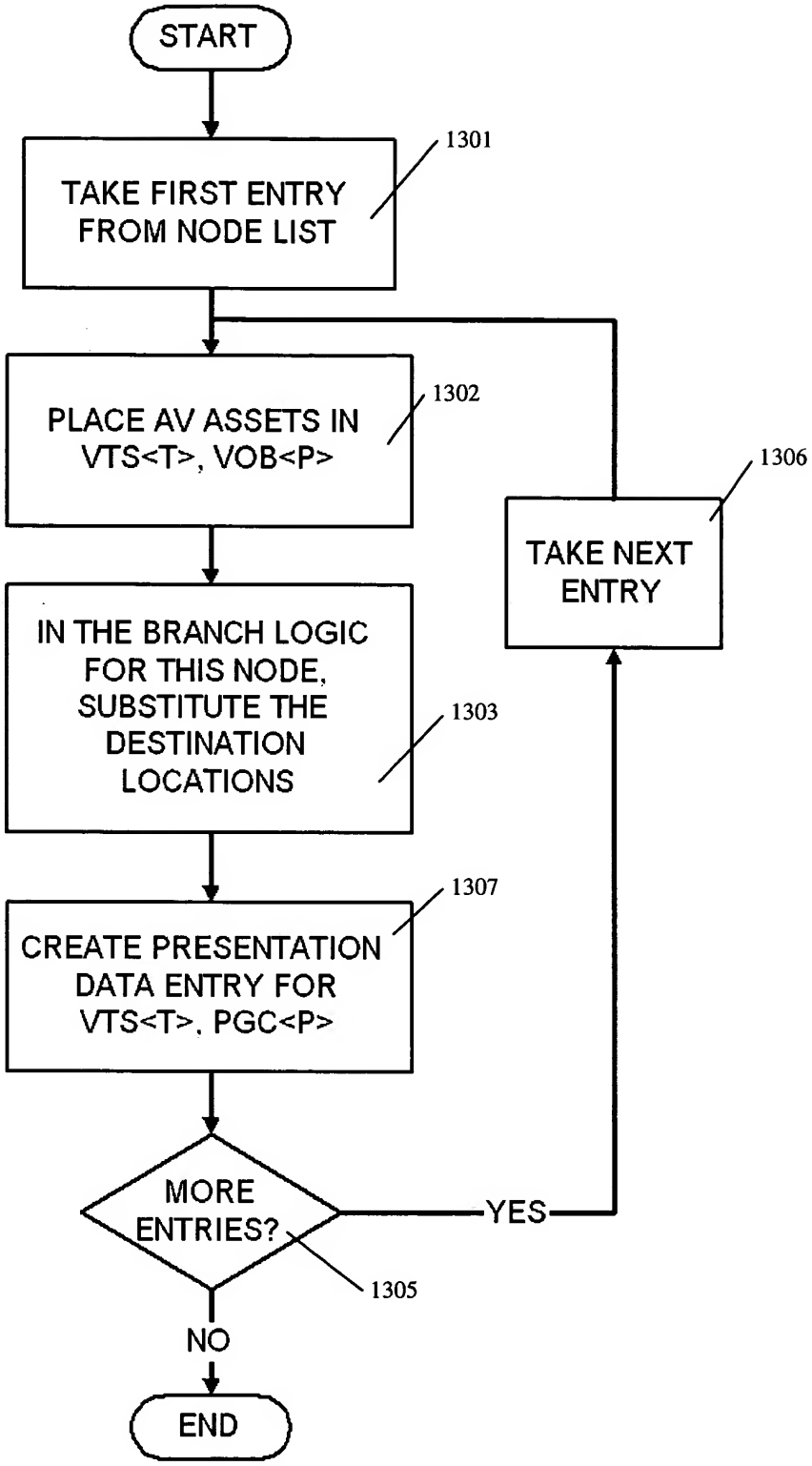

START
TAKE FIRST ENTRY FROM NODE LIST
1301
PLACE AV ASSETS IN VTS<T>, VOB<P>
1302
IN THE BRANCH LOGIC FOR THIS NODE, SUBSTITUTE THE DESTINATION LOCATIONS
1303
CREATE PRESENTATION DATA ENTRY FOR VTS<T>, PGC<P>
1307
MORE ENTRIES?
1305
YES
TAKE NEXT ENTRY
1306
NO
END

Fig. 13

Figure 14

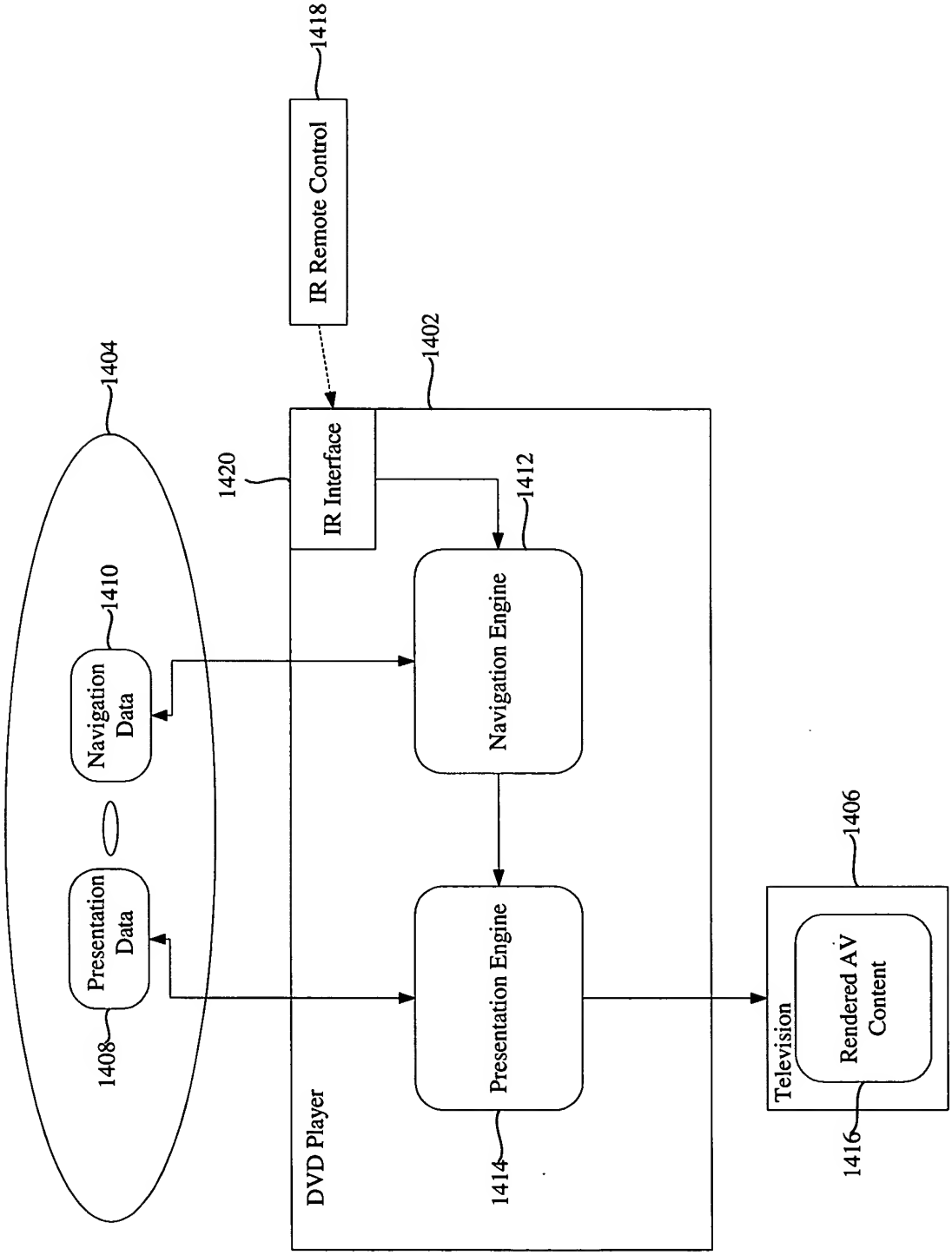

1418
IR Remote Control
1402
1404
1420
IR Interface
1412
Navigation Engine
1410
Navigation Data
Presentation Data
1408
DVD Player
Presentation Engine
1414
1406
Television
Rendered AV Content
1416
1400

Figure 15

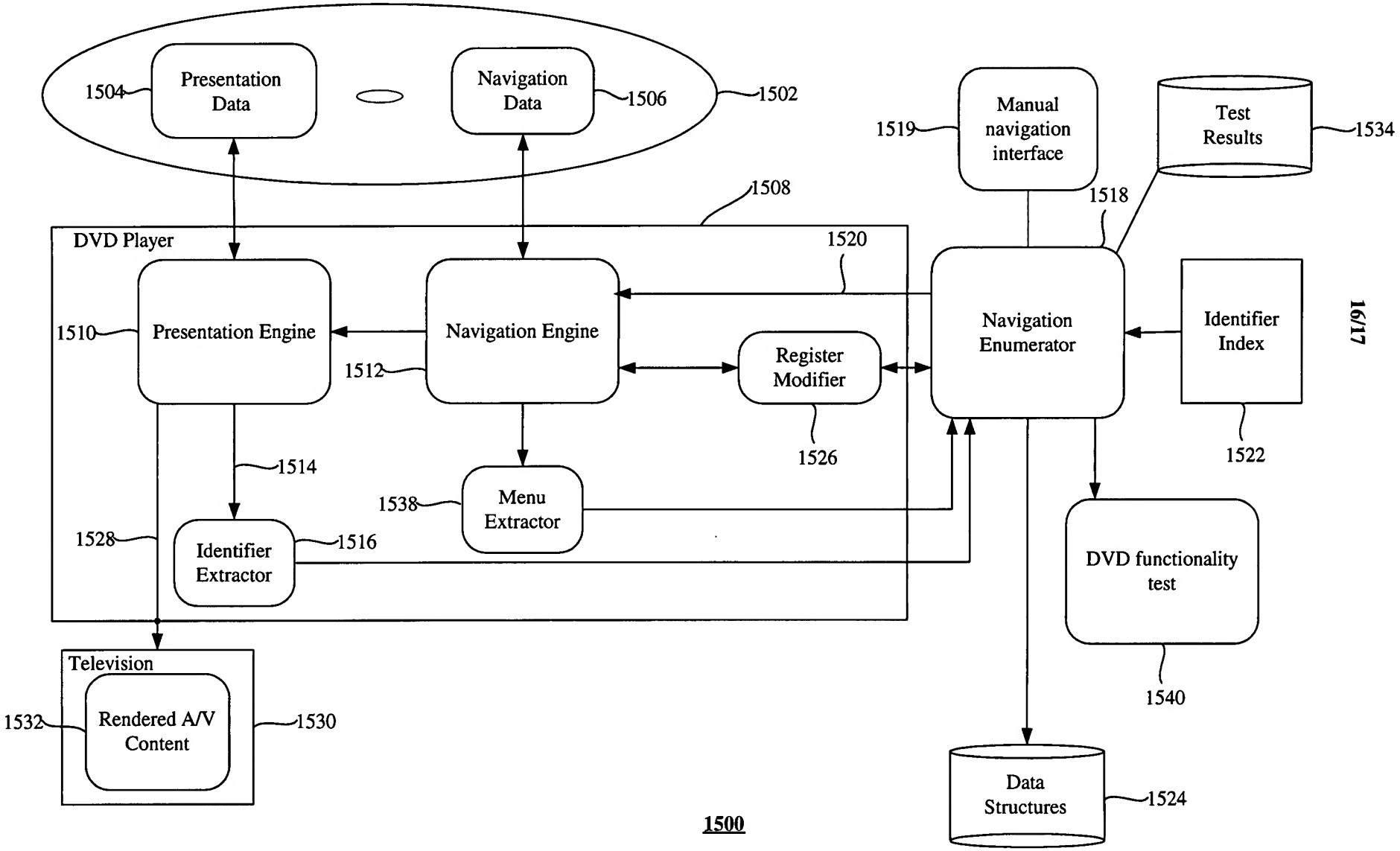
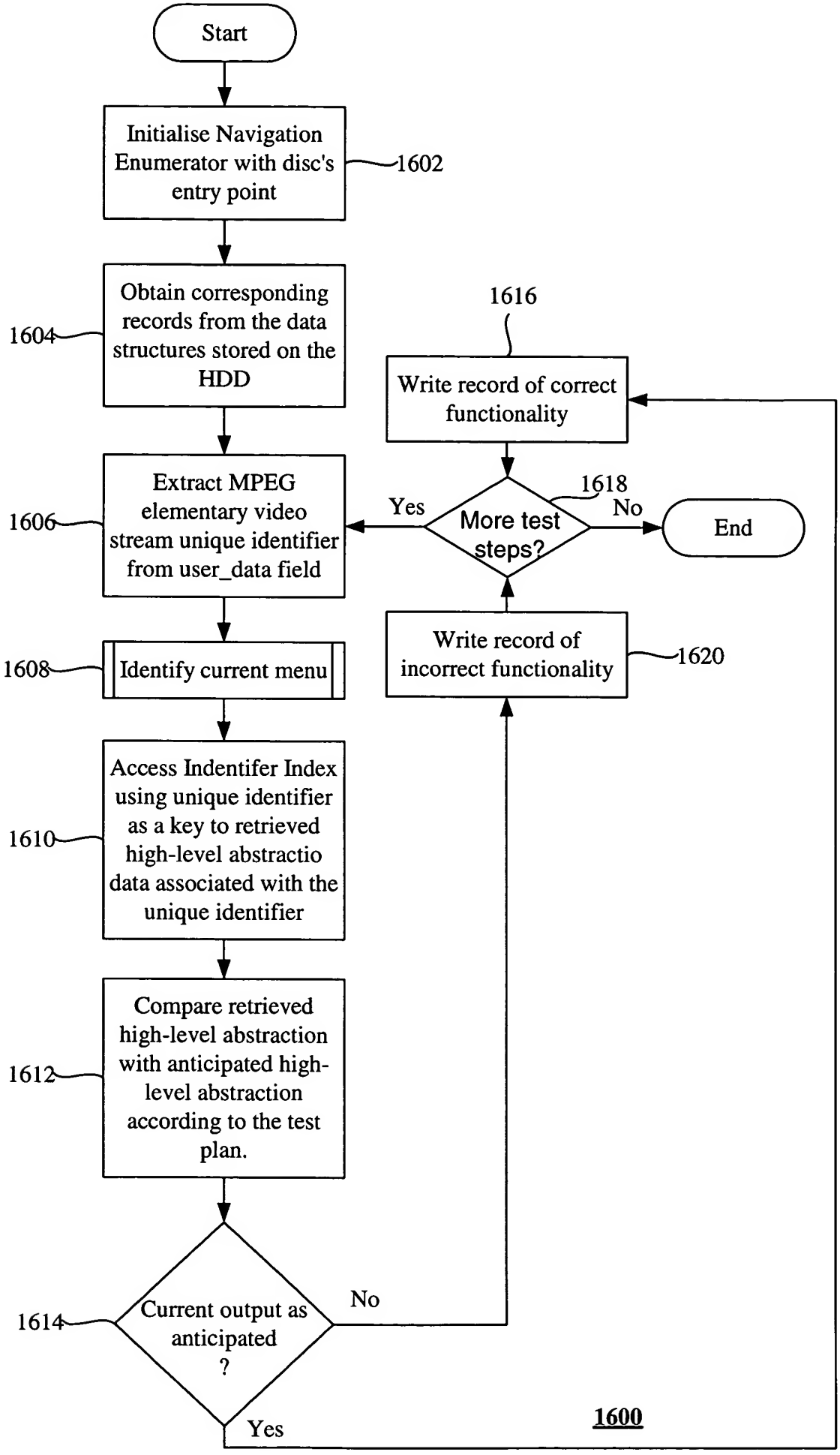

1504
Presentation Data
Navigation Data
1506
1502
1519
Manual navigation interface
Test Results
1534
1508
1518
DVD Player
1520
1510
Presentation Engine
Navigation Engine
1512
Register Modifier
Navigation Enumerator
Identifier Index
1526
1522
1514
1538
Menu Extractor
1528
Identifier Extractor
1516
DVD functionality test
1540
Television
1532
Rendered A/V Content
1530
Data Structures
1524
1500

Figure 16


Start
Initialise Navigation Enumerator with disc's entry point
1602
Obtain corresponding records from the data structures stored on the HDD
1604
Extract MPEG elementary video stream unique identifier from user_data field
1606
Identify current menu
1608
Access Indentifer Index using unique identifier as a key to retrieved high-level abstractio data associated with the unique identifier
1610
Compare retrieved high-level abstraction with anticipated high-level abstraction according to the test plan.
1612
Current output as anticipated ?
1614
No
Yes
Write record of incorrect functionality
1620
Write record of correct functionality
1616
More test steps?
1618
Yes
No
End
1600